

Level 1 Consultation Project Information Form (PIF) – 2018 Update

Shasta-Trinity and Klamath National Forests

Note: If the FS and FWS biologist agree that the effects of the proposed action on listed species or critical habitat can be described sufficiently using this format, then this PIF may be used as a short-form Biological Assessment (PIF-BA). The determination of its use as a PIF BA requires L1 discussion of the project's complexity, scale, intensity, and effects. The Forests are encouraged to include any additional relevant information when submitting it for L1 review and discussion.

June 13, 2018 version 1.1

Planned Use: PIF ☐ PIF-BA ☒

If using form as a PIF, only complete basic relevant information. If submitting as a PIF-BA, provide short rationale below:

Based on the extent of project design features and resource protection measures for this project and the resulting limited effects to T&E species, the USFWS Yreka office (FWS) and Shasta-Trinity National Forest (STNF) determined that the PIF-BA was a suitable BA format for this project.

IPaC List Date (Attach if submitting as a PIF-BA): January 12, 2021 (Attachment A)

Listed Species & Critical Habitat Considered for Consultation¹ (check all that apply and add species based on your project IPaC list if not included here):

- | | |
|--|---|
| - Northern spotted owl <input checked="" type="checkbox"/> | Northern spotted owl critical habitat <input checked="" type="checkbox"/> |
| - Marbled murrelet <input type="checkbox"/> | Marbled murrelet critical habitat <input type="checkbox"/> |
| - Western yellow-billed cuckoo <input type="checkbox"/> | |
| - California red-legged frog <input type="checkbox"/> | Oregon spotted frog <input type="checkbox"/> |
| - Delta smelt <input type="checkbox"/> | Lost River sucker <input type="checkbox"/> |
| - Shortnose sucker <input type="checkbox"/> | Valley Elderberry Longhorn Beetle <input type="checkbox"/> |
| - Conservancy fairy shrimp <input type="checkbox"/> | Shasta crayfish <input type="checkbox"/> |
| - Vernal pool fairy shrimp <input type="checkbox"/> | Vernal pool tadpole shrimp <input type="checkbox"/> |
| - Yreka phlox <input type="checkbox"/> | Slender orcutt grass <input type="checkbox"/> |
| - Water howellia <input type="checkbox"/> | Hoover's spurge <input type="checkbox"/> |
| - Gentner's fritillary <input type="checkbox"/> | McDonald's rock-cress <input type="checkbox"/> |

List and Provide Rationale for Species & Critical Habitat Not Considered (outside range, no suitable habitat in action area, not on project IPaC list, etc.):

Gray wolf- As of January 4, 2021, the gray wolf is no longer listed under the ESA (85 FR 69778) and will not be considered further in this document.

Western yellow-billed cuckoo- No effect. The project is not within the known or expected species range and no suitable habitat is present (Hughes 2015).

California red-legged frog- No effect. The project is not within the known or expected species range (USDI Fish and Wildlife Service 2002).

Delta smelt & longfin smelt- fish species not considered in wildlife analysis

Valley Elderberry Longhorn Beetle- No effect. The project is not within the known or expected species range (USDI Fish and Wildlife Service 1984).

¹ Based on October 28, 2019 IPaC species list for the Yreka Fish and Wildlife Office's jurisdiction with internal review.

Conservancy fairy shrimp, Vernal pool fairy shrimp & Vernal pool tadpole shrimp- No effect. The project is not within the known range of these species and no suitable habitat is present (USDI Fish and Wildlife Service 2005).

Hoover's spurge, slender orcutt grass & whitebark pine- plant species not considered in wildlife analysis

Fisher- On May 15, 2020 the US Fish and Wildlife Service found that only the Southern Sierra Nevada Distinct Population Segment (SSN DPS) of this species warrants listing under the ESA at this time (USDI Fish and Wildlife Service 2020b). The Pilot project area is in the Northern California/Southern Oregon DPS for this species, and is approximately 200 miles from the SSN DPS. This project will therefore have no effect on fisher populations listed under the ESA.

Provide rationale for using the PIF as a PIF-BA: The development of this project included extensive coordination between FWS and STNF to incorporate project design features and resources protection measures to reduce potential effects to listed species. As a result, the effects to T&E species are limited, and the PIF-BA is an appropriate format to provide the information necessary to support the ESA determinations.

Estimated Draft PIF-BA Submission to L1 Bio if submitting a separate BA: February 19, 2021

Allow two weeks for Draft BA review by L1 bio, subject to modification per agreement based on workload

Ranger District / Management Unit: Hayfork Ranger District/South Fork Management Unit

Project Biologist: Mark Goldsmith

Project Leader: Stephanie Riess

Expected NEPA Documentation: **Categorical Exclusion** ☐ **EA** ☒ **EIS** ☐

Expected NEPA Completion Date (month/year): April 2021

National Fire Plan or Healthy Forest Restoration Initiative project (HFRA): **Yes** ☐ **No** ☒

Attach map(s) of the project and expected action area

Legal Location: T31N R12W Mount Diablo Meridian; T2N R7&8E and T3N R7E Humboldt Meridian. See Attachment B for map of project action area.

Brief Description of Project

Include elevation, size in acres or miles, types of activities and equipment to be used in order to complete the project, road actions, other interrelated and interdependent actions. Attach a proposed action summary that includes all of this information if available.

The Forest Service is proposing to treat approximately 4,000 acres along approximately 40 miles of roads open to the public. Treatments will focus on thinning along the Indian Valley (2N10) and Butter Meadows (3N08) roads, and within and adjacent to plantations that are along these roads. Young plantations that were not included in the Westside Plantations Project or Middle Hayfork Project are included in this project.

Treatment prescriptions differ based on land management allocation objectives of the Forest Plan, and project-specific resource protection measures have been included to eliminate, reduce, or minimize potential effects. Treatments include thinning (with utilization of any material as appropriate), fuels reduction, and prescribed fire, which combined will shift the current conditions to ecological conditions that are more resilient to insect and disease outbreaks and wildfire over the long-term. The proposed action includes thinning activities in three areas: existing plantations, around treated plantations, and along the two roads in the project area.

The roadside and plantation fuel reduction area (roadside safety corridor) will be 300 feet total width (not including the width of the system road, shoulder to shoulder) and will be adjacent to the Indian Valley (2N10) and Butter Meadows (3N08) roads, and 300 feet around the plantations that intersect the roadside treatment area. Width of the treatment area on either side of the road will vary, but will not exceed 300 feet total width (e.g. if conditions lend to a wider treatment on the uphill side, the uphill side may be treated up to 275 feet from the road and the downhill side would be treated 25 feet from the road). The minimum treatment area along either side of the road will be 25 feet. Fuel reduction treatments can occur within the entire buffer, and the intent is to have less

fuel loading along the road with the treatment intensity decreasing beyond the edge of the road or plantation². Where treatments result in utilizable material, products may be offered.

To further reduce potential effects to NSO, High Value Wildlife Stands (HVWS) were designated within the treatment areas. These consist of NSO nesting/roosting or foraging habitat within known NSO core areas, and will be treated as follows: For nesting/roosting habitats less than 50 feet from a road or plantation edge, the stand will be thinned using a D+4 feet prescription. Nesting/roosting habitats more than 50 feet from a road or from a plantation edge will receive hand treatments to remove conifer trees less than 8 inches located within the canopy of larger trees. Outside of the canopy of larger trees, all conifers less than 8 inches will be spaced 20 feet from one another. All conifers greater than 8 inches will be retained. Foraging habitats in HVWS areas will be thinned to a tree spacing of Diameter (D)+4 feet, regardless of its distance from a road or plantation edge.

In coordination with FWS, additional High Value Wildlife Stands were designated to further reduce potential effects to NSO. These consist of select nesting/roosting habitat along Forest Road 3N08 and 3N08K that is outside any current NSO core areas (20.4 acres). In these additional High Value Wildlife Stands, the same prescriptions described above for nesting/roosting inside core areas will be applied.

Hazard trees within HVWS will be removed in accordance with “Hazard Tree Guidelines For Forest Service Facilities and Roads in the Pacific Southwest Region” (2012).

See Attachment C for a map of proposed treatments, and the project Environmental Assessment for a more detailed description of the Proposed Action.

Estimated Implementation Start and Completion Dates or Season

For project activities that may impact listed species or their habitat

Implementation may start as early as 2021. Maintenance treatments may continue for up to 30 years under this NEPA decision. Multiple entries may be necessary to achieve and sustain desired fuel profiles. For seasonal timing restrictions, see the “Pertinent resource protection measures” section of this document.

Action Area Spatial Bounding and Rationale for All Listed Species *(may differ by species or project actions)*

For NSO, the Action Area consists of a 1.3 mile buffer around all project units. This bounding is an appropriate scale as it is equivalent to the radius of the estimated median annual home range size for NSO in California, based on radio-telemetry data (Thomas *et al.* 1990; USDI-Fish and Wildlife Service 2011). It allows for an analysis of other adjacent or overlapping territories/home ranges and potential effects to connectivity, thereby framing the context and significance of potential effects to those other areas. The action area is 40,890 acres (Attachment B).

General Habitat Conditions in Action Area for Listed Species

Describe conifer, hardwood, shrub species, plantations or natural stands, presence of water, meadow habitat, other pertinent information for those species included in the planned consultation

The treatment units span a relatively large area on the South Fork Management Unit, and vegetation is variable across this area (Attachments D and E). The most common vegetation types include mixed conifers in the overstory, oaks and other hardwoods in the understory, and shrubs, forbs, and grasses as ground cover. Mixed conifer forests in the area are typically dominated by Douglas-fir, ponderosa pine, and incense cedar. Higher elevation sites often support Douglas-fir and white fir. Common hardwood trees in the understory include Pacific madrone, California black oak, canyon live oak, Oregon white oak, and alder. Many sites with shallow, rocky soils and southerly or westerly aspects have harsh growing conditions. As a result, primary vegetation in many of these areas includes oaks, shrubs, forbs, and grasses, rather than coniferous trees. These types of habitats are more widespread in the southern portion of the action area. Habitat suitability for NSO is somewhat limited compared

² Surface fuels includes all fuels (live and dead) that could influence surface flame length and/or contribute to crown fire initiation: Leaf/needle litter, dead and down, live brush, and small trees up to 8 inches d.b.h. This includes tree limbs up to a height of 8 feet.

to many other parts of the management unit, but suitable nesting/roosting habitats are found in many parts of the project area, particularly in the northern part of the project area along Butter Creek. The plantations within the project do not currently contain suitable (nesting/roosting or foraging [NRF]) or dispersal NSO habitat due to their young age, relatively small diameter trees and high tree densities impeding NSO flight.

Summarize Data from Common Stand Exams or Quick Plots (include this information for a PIF-BA)

Attach and/or describe below a summary of stand conditions. If stand exam data is available at the time of PIF submittal, include this information if using this document as a PIF-BA or provide at a later date. Include information on species, QMD, age class, basal area, TPA, snags per acre, snag QMD, large log size class and tonnage per acre, information on smaller CWD levels from Transect data. If none of this information is available, describe based on field review and silviculturist or fuels specialist knowledge.

Vegetative data collected in the project area was used to predict post-implementation habitat conditions using Forest Vegetation Simulator (FVS) modeling, which projects forest vegetative conditions into the future (Attachment F). Samples were collected in all combinations of treatment types and NSO habitats, but sample sizes in some cases were relatively small. As a result, these data should be considered indicative rather than definitive.

FVS modeling predicts conditions in foraging habitats to remain suitable after vegetative treatments are completed, and improve steadily into the future. This is reflected in common indicators of NSO habitat conditions such as quadratic mean diameter (QMD), trees per acre ≥ 24 " dbh, canopy cover, snag levels and basal area. Modeling in nesting/roosting habitats generally shows the same trends. However, canopy cover in Upland Mixed Conifer treatment areas does decrease post-treatment to a point slightly below the level that is considered suitable for nesting/roosting habitat ($\geq 60\%$). It increases again in time, but to err on the side of caution this analysis will consider this treatment in nesting/roosting habitat to temporarily downgrade nesting/roosting habitat to (high-quality) foraging habitat. Canopy cover steadily increases post-treatment, exceeding 60% again in approximately 20 years.

Methods, Data Sources, Assumptions

Describe all methods, data sources, assumptions for quantifying and qualifying the existing condition and expected effects (NAIP, eveg data, field review, etc.).

NSO habitat conditions were classified and quantified using a combination of the best available information, including E-veg (a remotely sensed contiguous GIS layer of NSO habitat suitability developed by USFS), NAIP (National Agricultural Imagery Program) aerial imagery, RHS modeling (developed by FWS to identify areas most likely to support NSO survival and reproduction, incorporating documented NSO occurrences as well as abiotic factors such as slope position, proximity to water, and habitat suitability in adjacent areas), USFS vegetation databases, and Google Earth aerial imagery. NSO habitat suitability was then field-verified in proposed treatment units. FWS participated in this process, including "ground-truthing" field visits to the project area, and concurred with the resulting mapping of current habitat conditions. Sources of NSO data (Activity Centers, nest sites, observations, etc) include the Forest Service NRIS/NRM database and the State California National Diversity Database (CNDDDB).

Other Projects

List all ongoing Forest Service projects or activities within the action area (those with signed Decisions that have not yet been implemented or that are ongoing)

Potential effects from other future foreseeable federal (Forest Service) activities are also very limited. Reforestation and plantation thinning constitute the great majority of these activities (3,572 acres), and they take place in unsuitable habitats. The Indian Valley Meadow Restoration project (161 acres of which are in the action area) focuses on restoring meadow habitat and reducing hydrological impacts. These activities are likely to have little effect on NSO habitats. The Trinity Post-Fire Hazard Reduction and Salvage project focuses on reducing fuels and improving fire suppression access along roadways affected by the fires of 2015. Only 23 acres of

proposed treatments for this project are in the action area, all of which are on the edge of the action area and none of which are in NRF habitat.

Activity Type(s) – Indicate each type of activity, acreage, and general information for which consultation is being requested. Information must be as complete as possible if utilizing this document as a PIF-BA.

Timber Harvest	Green acres: Up to 3,265.
	Salvage acres: 0
	Systems: whole tree yarding, cable yarding, cut to length by hand
	Equipment: chainsaw, excavator, dozer, tracked chipper, cable yarder, rubber tired skidder, masticator
	Season of Work: For seasonal timing restrictions, see the “Pertinent resource protection measures” section of this document.
Hazard Trees	Hazard abatement: Snags that pose a safety hazard to personnel or prescribed fire control lines will be felled. Those outside the treatment areas will be left on site as logs.
	Season of Work: Expected to match the season of work for timber harvest and prescribed fire activities.
Prescribed Fire	Ignition Method: drip torch, fusee, vary pistol, possibly unmanned aerial system or helicopter.
	Acres of Treatment / Percent of Project Area Affected: Prescribed fire and other activities to reduce fuels may be conducted in all treatment areas (4,025 acres). Control line construction may occur within and around the broadcast burning area outside plantations (2 foot wide hand lines, 10 foot wide dozer lines). Control line preparation (along hand lines, dozer lines, and roads used for control) will include felling and leaving hazard trees, cutting brush and small trees (<8” dbh), pruning trees to a height up to 8 feet, masticating/chipping, handwork, lop/scatter, and pile and burning. Prep will occur within (up to) 50 feet from hand lines and within (up to) 100 feet from dozer lines and roads used as control lines. Prep will only occur on the “fire” side of the lines. Exact acreage is unknown, but in reality much of the prep will occur as part of the other treatment methods listed in the proposed action (Ostmann pers. comm. 2020).
	Season of Work: For seasonal timing restrictions, see the “Pertinent resource protection measures” section of this document.
Mechanical Fuels Treatment	Systems: machine pile, hand pile, mastication, pile burn, jackpot burn, broadcast burn, prune, utilization (firewood), release (brush cutting).
	Acres: Up to 4,025.
	Equipment: masticator, chainsaw, dozer, tracked chipper, drip torch.
	Season of Work: For seasonal timing restrictions, see the “Pertinent resource protection measures” section of this document.
Trail Work	Activity (<i>maintenance / new construction</i>): N/A
Road Work	Activity: Road maintenance/reconstruction as well as landing and access ramp construction or utilization would occur as necessary. Access ramps (less than 100 feet in length) may be utilized to access existing or newly constructed landings. Ramps will be decommissioned and revegetated following use. There will be no new road construction.
	Estimated miles of treatments / road types: Approx. 34 miles of FS system roads will be treated. All temporary roads will be located in existing unauthorized routes or previously used roadbeds, none of which are suitable NSO habitat.
	Equipment: Heavy equipment such as dozers, graders, dump trucks, excavators

	Season of Work: For seasonal timing restrictions, see the “Pertinent resource protection measures” section of this document.
Site Prep and Reforestation / Timber Stand Improvement (TSI)	Activity: No reforestation included in this proposed action.
	Acres: 0.
	Equipment: N/A
	Season of Work: N/A

Species Information

Northern spotted owl: Complete the following information as feasible for the NSO. If utilizing this document as a PIF-BA, the information should be based on the best available and complete information at the time of submittal to FWS for review and discussion.

NSO Survey Information

- 1) Are or will surveys be completed per the 2012 protocol? Yes ☒ No ☐
- 2) Describe the Survey History and Current Survey Plan below:

NSO

While NSO surveys are never required for ESA consultation, they inform the ESA analysis and decrease the level of uncertainty regarding potential effects to NSO. To this end, an NSO survey strategy was developed jointly with FWS to provide a high probability of detection of NSO potentially affected by project activities. A survey buffer of 0.25 mi. around proposed treatment units was established, and has been surveyed each year since 2015. In addition, other NSO activity centers near proposed activities that were identified during past survey efforts have also been monitored. By agreement with FWS (Johnson, pers. comm., 2014), an area with very limited suitable NSO habitat in the southwest portion of the project area was not surveyed due to the very low potential for this area to support reproducing NSO. See Table 7 for NSO survey history.

Barred owls

Barred owls have been identified as a primary cause of spotted owl population declines through direct territorial aggression, competition for resources, interbreeding, and possible predation. FWS has determined that the competitive threat to NSO from barred owls “is extremely pressing and complex, requiring immediate consideration” (UDSI Fish and Wildlife Service 2011, Wiens *et al.* 2016). In the action area, barred owls have been documented within the core area of TRI0145 and in an Upland Mixed Conifer treatment area in section 20 of T31N R12W.

Although barred owls constitute a significantly greater threat to NSO recovery than was recognized at the time of ESA listing in 1990, it is unclear whether forest management has an effect on the outcome of interactions between barred owls and NSO (Gutiérrez *et al.* 2007). Barred owls are forest habitat generalists, but display a selective preference for habitats highly suitable to spotted owls (Hamer *et al.* 2007; Wiens *et al.* 2016). The somewhat less restrictive habitat requirements of barred owls may allow them to more easily become established and compete with spotted owls for territories. Therefore, even without fully understanding the effects of forest management, recent research suggests the importance of maintaining high-quality habitats and decreasing habitat fragmentation (Dugger *et al.* 2005, Dugger *et al.* 2016; Wiens *et al.* 2016).

NSO habitat is well-distributed in the project area. No NSO habitat will be removed as a result of project activities, and the total amount of NRF habitat will remain unchanged. N/R habitat downgrades will be limited to narrow buffer areas adjacent to roads and plantations. As a result, competitive or negative interactions between barred owls and spotted owls are unlikely to significantly increase as a result of implementing the proposed treatments, and there is no basis on which to conclude that proposed activities will confer a significant competitive advantage to barred owls over NSO.

NSO Disturbance Information

- 1) Is there Potential for Noise or Smoke Disturbance*? Yes ☒ No ☐

Review Criteria	YES	NO
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Known NSO activity centers within 0.25 mile	X	
NSO suitable habitat within 0.25 mile of planned activity and surveyed to protocol	X	
Unsurveyed suitable habitat for NSO within 0.25 mile	X	

2) Is blasting of rock proposed? Yes ☐ No ☒

3) Is helicopter use proposed (**possibly** for prescribed burning outside of plantations) Yes ☒ No ☐

4) Describe the expected noise below:

Noise

Expected noise includes cutting (chainsaws, etc.), processing and hauling of logs, masticating, chipping, dozer line construction, road maintenance, construction of temporary roads, and road decommissioning. Helicopter use is possible for prescribed fire ignition, but flight paths are unknown. As a result of seasonal restrictions included in the project resource protection measures, the potential for noise disturbance to NSO is greatly reduced and the proposed activities are not likely to adversely affect NSO.

Smoke

Smoke will be generated from project-related activities by broadcast burning, pile burning and jackpot burning. Smoke producing activities may affect nesting NSO if smoke drifts through an active nest location or pools in lower elevation habitat containing an active nest. As a general rule, a seasonal restriction (Feb 1st through July 9th) applies within 0.25 miles of active nests or unsurveyed suitable habitat to reduce potential smoke effects to an insignificant or discountable level. This rule may be modified to allow prescribed burning within 0.25 miles of active nests or unsurveyed suitable habitat during the period of seasonal restriction where it can be demonstrated prior to implementation that smoke effects to reproductive NSO from prescribed fire activities can be avoided altogether or minimized to an insignificant or discountable level.

Potential smoke effects within 0.25 miles of NSO active nests or unsurveyed suitable habitat during the period of seasonal restriction will be managed as follows in this section.

Prescribed burning in California is regulated under Title 17 of the California Code of Regulations. All prescribed fire activities associated with this project will be conducted under a smoke management plan approved by the North Coast Unified Air Quality Management District, or any other required air quality district or entity. Smoke management plans and/or prescribed fire plans associated with this project may describe the use of predictive tools, monitoring, and possible smoke mitigation measures, particularly as they relate to mitigating impacts to potentially affected communities (National Wildfire Coordinating Group 2018).

All smoke management plans for this project will also address potential effects to NSO when prescribed burning is planned within 0.25 miles of an active nest or un-surveyed suitable habitat during the period of seasonal restriction for activities that produce smoke (see Additional Information for NSO and Anticipated Project Effects). If smoke impacts cannot be avoided or minimized to an insignificant or discountable level within 0.25 miles of an active nest or un-surveyed suitable habitat, prescribed burning will be conducted outside the seasonal restriction period. The same predictive tools, monitoring strategies, and mitigation measures used to protect human health in potentially affected communities will be employed to avoid potential impacts to NSO.

All NSO activity centers and suitable habitat within 0.25 miles of treatments where prescribed burning will occur in the Pilot project are identified and included on a map (Attachment G). Areas with potential for smoke impacts to activity centers and unsurveyed suitable habitat within ¼ mile of the proposed treatments are also identified on the map. During an implementation year, prescribed fire burn bosses and USFS wildlife biologists will coordinate and develop revised maps, as needed, to update survey results for implementation to manage smoke effects to NSO. The potential for smoke effects to active nests and unsurveyed suitable habitat will be evaluated prior to

implementation using predictive tools for smoke management. Implementation of prescribed fire activities will be conducted in accordance with the resource protection measures and seasonal restrictions in the Additional Information for NSO and Anticipated Project Effects section of this BA.

During implementation, smoke from the test fire will be monitored to determine dispersal and potential for smoke effects to active NSO nests and/or unsurveyed suitable habitat in the Pilot project area within 0.25 miles of smoke producing activities. Smoke effects will be monitored throughout the operational period and into the patrol phase of the burn. Smoke dispersal observations will be compared with the weather forecast. Implementation monitoring will verify whether avoidance measures are achieving smoke management objectives. Ignitions would be slowed or stopped if smoke is dispersing towards an active nest or into unsurveyed suitable habitat. Mop-up may occur as needed to abate smoke dispersion towards active nests and unsurveyed suitable habitat to an insignificant or discountable level.

Possible smoke avoidance and/or minimization measures may include, but are not limited to, burning when atmospheric conditions are ideal for dispersion, reducing the acreage burned when conditions are less than ideal, timing prescribed fire ahead of precipitation events to reduce the duration of burning, or curtailing ignitions early enough in the day to reduce the amount of smoke that can settle under nighttime temperature inversions, and implementing prescribed burns when fuels are sufficiently dry to have a short burn down period to reduce residual burn time, thus reducing smoke impacts. Prescribed burning will be conducted with the appropriate burn day authorization, and all required burn permits will be obtained.

Not all of these measures can or will be used simultaneously, but any one or combination of measures would be employed when needed based on predictive tools and weather forecasts prior to implementation, or during implementation monitoring.

The effects of smoke producing activities within 0.25 miles of active nests and unsurveyed suitable habitat (if any) can be avoided, or minimized to an insignificant or discountable level, by using firing techniques that:

* Provide good smoke dispersion, ventilation aloft and/or away from active nests and unsurveyed suitable habitat (if any) in the project area, and that

* Avoid inversions in lower elevations where smoke may become trapped, or minimize inversions to an insignificant or discountable level of effects for nesting NSO.

If effects of smoke cannot be avoided or minimized to an insignificant or discountable level, the seasonal restriction from February 1st through July 9th will apply, and prescribed burning will be conducted outside the seasonal restriction period for the NSO.

**Note that for a 'May Affect, Not Likely to Adversely Affect' determination, seasonal restrictions are required for activities that would generate sound levels 20 or more decibels above ambient sound levels; or for activities that would generate maximum sound levels above 90 decibels, excluding vehicle back-up alarms. Maximum sound levels are the combined ambient and activity-generated sound levels.*

Proposed Seasonal Restrictions within 0.25 mile of ACs/suitable habitat (check all that may apply)

Dates	YES	NO	List Applicable Units (if using this as a PIF-BA)*
None	X		Activities that do not impact nesting/roosting or foraging (NRF) habitat and: <ul style="list-style-type: none"> Do not generate loud and continuous noise (2 or more hours/day), including road work that is transitory (does not remain in one location); and Smoke producing activities that can be managed to avoid active nests and/or unsurveyed suitable habitat, or minimize such effects to an insignificant level.

2/1 to 7/9	X		Plantations and other units/activities where: <ul style="list-style-type: none"> Loud and continuous noise would occur, outside of NRF habitat but within 0.25 mile of occupied or unsurveyed NRF habitat; and Smoke generating activities that cannot be managed to avoid active nests and/or unsurveyed suitable habitat, or minimize such effects to an insignificant level.
2/1 to 9/15	X		Activities that modify suitable occupied or unsurveyed NRF habitat.

NSO Action Area Existing Conditions

Define the action area bounding (are you utilizing a 'disturbance-only' buffer or a larger spatial extent due to habitat modification?). Describe the suitable and critical habitat conditions in the Action Area (i.e., stand / forest types, tree species, QMD, basal area, canopy closure for NRF and Dispersal). For critical habitat, include a description of PBF 1 if you have determined that this PBF of critical habitat exists in the action area:

The Action Area considered in this analysis consists of a 1.3 mile buffer around all project units, totaling 40,890 acres (Attachment B). For a description of habitat conditions in the action area, see the "General Habitat Conditions in Action Area for Listed Species" and "Summarize Data from Common Stand Exams or Quick Plots" sections above, as well as the FVS data in Attachment F. The great majority of the project area is in NSO Critical Habitat, and the great majority of suitable NSO habitat in the action area is also with an NSO Critical Habitat Unit. See the Critical Habitat section below and Attachment C for more details.

Table 1. Existing Habitat Conditions in NSO Action Area

<i>Complete this information as feasible for the Existing Condition, as not all information may be available at time of PIF submittal and presentation. This information should be complete when submitting as a PIF-BA.</i>						
Habitat in 'noise/smoke disturbance' action area (0.25 mile buffer on activities)			Describe activity(ies): Activities include tree felling and removal, machine pile, hand pile, mastication, pile burn, jackpot burn, broadcast burn, prune, utilization (firewood), release (brush cutting), dozer and hand line construction and prep, and road work.			
N/R ac	Foraging ac	Dispersal ac				
792	2,026	2,097				
Habitat in 'habitat alteration' action area (1.3 mile buffer)			N/R	Foraging*	Dispersal	Non-Habitat
Total acres of habitat			5,479	8,582	8,120	18,709
Will Critical Habitat BE TREATED ? (if YES, complete subunit name(s) and acre(s) below for existing condition – if NO, do not fill out the information below as it is not relevant if CH is not treated)			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
CH unit(s) and Subunits in action area (add additional rows for the existing condition if more than one subunit is affected)			Critical Habitat Unit Name: Interior California Coast Subunit Name: ICC 1			
			PBF 2	PBF 3	PBF 4	PBF 1
Total acres in CH in action area			4,643	6,898	6,262	11,097

NSO Habitat Modification Information

If the proposed action is likely to result in noise or smoke disturbance **only**, there is no need to complete this section – skip ahead to the **ESA Cumulative Effects** section and complete that. If habitat modification will occur, complete all of the following information as feasible. If using this document as a PIF-BA, this information should be complete. A “Yes” response for downgrading or removal of habitat function requires additional information and discussion at L1.

Review Criteria	YES	NO
1) Will proposed action benefit current non-habitat or suitable NSO habitat?	X	
2) Will proposed action degrade suitable NSO habitat (even short term)?	X	
3) Will proposed action downgrade suitable NSO habitat?	X	
4) Will proposed action remove suitable NSO habitat?		X
5) Will NSO habitat be benefitted or degraded in a core?	X	
6) Will NSO habitat be benefitted, degraded, or downgraded in a home range?	X	

**** If “No” to all of the above and just noise or smoke disturbance is expected, Tables 2-8 below can be deleted or left blank. If “Yes” to any of the above, what are the expected impacts to NSO and/or habitat in the action area and the timeframes? (Deconstruct actions and describe effects to NSO habitat and prey: thinning, fuels treatments, burning? Will effects be short or long term or both? Be sure to define the temporal bounding. Will there be extensive removal of snags or predominant / dominant trees? Are there overlapping treatments that may compound effects to NSO habitat or prey? What are the estimated size classes of snags and trees to be felled and removed, or thinned? Add any additional tables outside of those included below, as applicable. If there are design features that reduce impacts to habitat, note this and describe them on page 20.**

Proposed activities that may affect NSO habitat suitability include forest thinning, fuels reduction (including prescribed fire), hazard tree abatement, and construction of temporary roads.

Fuels reduction, including prescribed fire: Proposed fuels treatments may occur in all project units. These treatments will help protect remaining NSO habitat by reducing fuel loading along roads, increasing resilience to future disturbance, and facilitating successful suppression of the fires that will occur in the future (Brown *et al.* 2003). Both the Forest Wide Late Successional Reserve Assessment and the Revised Recovery Plan for the Northern Spotted Owl support this goal and advocate for monitoring the effects of restoration efforts (USDA Forest Service 1999; USDI Fish and Wildlife Service 2011).

Fuels treatments in NRF habitats will reduce dead shrubs and small snags, but will likely have a very limited effect on canopy cover or layering, or the abundance of large trees. Treatments may open up the understory to improve NSO access in overgrown patches within these habitats. Treatments will reduce coarse woody debris (CWD), which may reduce habitat quality for NSO prey species. However, these treatments typically affect primarily the smaller-diameter woody material, rather than the larger material that is a more valuable habitat component.

Project RPM’s require 15 tons/acre of CWD to be maintained in all areas (where it currently exists), reducing the effects of these treatments on the NSO prey base. Preferential retention of pre-existing snags and logs in the advanced decay classes that are most beneficial to wildlife is also required, further reducing effects in areas most important to NSO. Fuels treatments also typically result in regeneration of new growth in understory herbaceous vegetation (Schwilk *et al.* 2009, Bartuszevige and Kennedy 2009), and a subsequent increase in the amount of food and cover for NSO prey.

In dispersal areas, proposed fuels treatments will likely have little effect on the overstory or canopy cover, or on the number of large (live) trees per acre. In some areas, fuels treatments may help open up the understory and improve connectivity and overall conditions for NSO dispersal.

Hazard tree abatement: Trees hazardous to open roads/operations will be cut to abate the danger. Measures to reduce potential effects to NSO and other species that benefit from snags (and other coarse woody debris, or CWD) include the following:

1.) Where it is available, at least 15 tons of CWD per acre will be retained for wildlife benefit (CWD = snags 15 inches or greater in diameter and logs greater than 20 inches diameter and 10 feet long). In the areas where there is a need to retain CWD in addition to decayed snags and logs to meet this standard, snags and logs with deformities such as cat faces, broken or forked tops, hollows or cavities will be prioritized for retention.

2.) Except where it poses a hazard to operations or haul routes, all CWD in advanced states of decay (snag and log decay classes 3-5³) will be retained.

3.) Within NSO nesting/roosting habitat in High-Value Wildlife Stands (HVWS's) and beyond the 50-foot buffer along roads and plantations, tree removal greater than 8 inches dbh will be limited to hazard trees.

Temporary roads and landings, and legacy sediment sites: Temporary roads will be constructed where necessary to carry out proposed activities, and will be removed afterwards. Temporary roads will all be located within previously disturbed areas, either existing unauthorized roads or previously used roadbeds. Legacy sediment site treatments (culvert replacements) also take place in previously disturbed sites. As a result, these activities are expected to have little or no effect on NSO habitat functionality.

Exact locations of landings needed for project activities are not known at this time. However, due to their very small size these landings are likely to have a very limited effect on NSO habitat functionality, and may instead function as openings to facilitate foraging activities within NSO NRF habitats in the future.

Forest Thinning: The purposes of proposed forest thinning include creating safer ingress/egress for local communities, improving forest health and habitat quality, reducing fuels, and making plantations more resilient to disturbances including high-severity wildfire as well as insect and disease outbreaks. Thinning prescriptions are described in detail in the proposed action. They range from D+10 spacing in Upland Pine Stands down to D+4 spacing in High-Value Wildlife Stands.

The projected effects of these prescriptions are addressed in the "Summarize Data from Common Stand Exams or Quick Plots" section. FVS modeling predicts conditions in foraging habitats to remain suitable after treatments are completed (under all prescriptions), and improve steadily into the future. This is reflected in common indicators of NSO habitat conditions such as quadratic mean diameter (QMD), trees per acre ≥ 24 " dbh, canopy cover, snag levels and basal area (Attachment F). Modeling in nesting/roosting habitats generally shows the same trends. Treatments in nesting/roosting habitats using the HVWS prescription maintain these habitat conditions. This is likely due to the high quality of habitats in areas chosen by NSO. To further reduce potential effects to NSO in existing core areas, a much more restrictive prescription has been applied to nesting/roosting habitats beyond the 50-foot buffer zone along roads and plantations (See the Brief Description of Project section).

In areas where the Upland Mixed Conifer prescription is applied (all of which are outside NSO cores), canopy cover decreases post-treatment to a point slightly below the level that is considered suitable for nesting/roosting habitat ($\geq 60\%$). It increases again in time, but for the purpose of this analysis, this prescription will be considered a temporary downgrade of nesting/roosting habitat to foraging habitat. These habitats are projected to regain nesting/roosting functionality again in time, and even in the short term the total amount of NRF habitat will remain constant, as the downgraded nesting/roosting habitat is converted to foraging habitat. Foraging habitats will maintain their functionality even in areas where the Upland Mixed Conifer prescription is applied.

In dispersal areas, there will be little effect to the overstory and thus little effect to canopy cover. Treatments will

³ Class 3: Intact, soft logs in full contact with the soil; no branches or bark; high moisture content; very high biological activity in fully penetrated sapwood; some biological activity in heartwood. Class 4: Intact to fractured cubical heartwood and bark; log mostly buried in the soil; very high moisture content; extremely high biological activity, mostly microorganisms and sub-microscopic invertebrates; fully penetrated by mycorrhizal fungi and roots.

also have a negligible effect on the number of large (live) trees per acre. As a result, dispersal habitats are expected to retain their capability to support dispersal of NSO.

None of the plantations proposed for treatment currently contain NRF or dispersal habitat due to their young age, small diameter trees, and high tree densities that impede NSO flight. Treatments in plantations will expedite their development into dispersal or suitable habitat in the long-term and provide beneficial buffers to suitable habitat. The proposed thinning will promote increased growth and vigor of remaining trees, and improve overall stand health by reducing competition for limited resources, including water.

Conclusion: In summary, the proposed thinning, in combination with fuels reduction and the other proposed activities, are expected to result in a minor degrade of foraging habitats and nesting/roosting habitats outside of Upland Mixed Conifer (UMC) thinning areas, and a short-term downgrade of nesting/roosting habitats in UMC thinning areas to foraging habitat. Functionality of dispersal habitat and connectivity is expected to be maintained, and may be enhanced in areas where treatments open up the understory to facilitate NSO flight.

Table 2. NSO Habitat Effects from the Project in the Action Area

Pre-Project Habitat in Action Area				Post-Project Habitat in Action Area				Change in Status of Habitat in Action Area Acres		
N/R	F	D	U	N/R	F	D	U	N/R to F Downgrade	N/R Degrade	F Degrade
5479	8,582	8,120	18,709	5,377	8,684	8,120	18,709	102	160	656

Nesting/roosting habitat downgraded to foraging habitat = 1.9%

Nesting/roosting habitat degraded = 2.9%

Foraging habitat degraded = 7.6%

No change in overall quantity of NRF habitat.

See the “NSO Habitat Modification Information” and “Summarize Data from Common Stand Exams or Quick Plots” sections and the map attachments for more details on the effects of specific treatments on NSO habitats.

Table 3. NSO Habitat Effects from the Project in LSR Land Allocation⁴ (list separate LSR ID from LSRA⁵ if effects in more than one)

Pre-Project Habitat in Late-Successional Reserve				Post-Project Habitat in Late-Successional Reserve				Change in Status of Habitat in Late-Successional Reserve		
N/R	F	D	U	N/R	F	D	U	N/R to F Downgrade	N/R Degrade	F Degrade
597	676	1,303	3,275	589	684	1,303	3,275	8	17	67

The Forest Wide Late Successional Reserve (LSR) Assessment (USDA Forest Service 1999) calls for management to “promote and maintain late successional conditions in the maximum amounts sustainable through time,” and promotes prescribed fire and actions that accelerate the development of large trees. The proposed project includes thinning and prescribed fire in this LSR to help achieve these goals while minimizing effects to NSO habitats.

⁴ This information is required for NSO Baseline Habitat Effects tracking. The only LSR to be treated is RC330 (South Fork).

⁵ The Forest’s Late-Successional Reserve Assessment documents

NSO Critical Habitat Information

- 1) Will the proposed action impact any designated NSO critical habitat? Yes ☒ No ☐
- 2) If **No**, do not complete Table 4. If **Yes**, describe the anticipated impacts to the function of the critical habitat (e.g., dropping and leaving hazard trees, removing trees, short-term, long-term, minor, adverse? Summarize the effects to NSO Critical Habitat from treatments, including a summary of effects to PBF 1 and if you have determined a timeframe for PBF 1 to transition into PBF 4, 3 or 2. Add additional tables, as necessary. This information should be complete when using this document as a PIF-BA.

The majority of proposed treatments (81%) are within NSO Critical Habitat (Attachment C). These areas contain PBFs 1, 2, 3, and 4. No nesting/roosting (PBF 2), foraging (PBF 3) or dispersal (PBF 4) habitat will be removed, and 93 acres of PBF 2 will be downgraded to PBF3. An additional 147 acres of nesting/roosting and 629 acres of foraging habitat will be degraded but maintain functionality. Plantations in the project area have dense and abundant lateral branches that currently obstruct NSO flight. The proposed treatments will open up the understory in improve opportunities for NSO dispersal. Thinning is also expected to improve resiliency to wildfire and decrease the likelihood of stand-replacing wildfire.

Effects to NSO habitat from each treatment type are described above in the “NSO Habitat Modification Information” section. Due to the small percentage of the CHU affected and the resource protection measures and project design features that were developed collaboratively with FWS, the proposed activities will have minimal impacts to this CHU, and the 332,042-acre ICC1 CH subunit is expected to continue to function, as described under the Final Rule, for demographic support, but also for connectivity between subunits and critical habitat units (USDI Fish and Wildlife Service 2012).

Table 4. Summary of effects from the Project to Critical Habitat in the action area

Pre-Project Critical Habitat in Action Area				Post-Project Critical Habitat in Action Area				Change in Status of Critical Habitat in Action Area Acres		
N/R	F	D	U	N/R	F	D	U	N/R to F Downgrade	N/R Degrade	F Degrade
4,643	6,898	6,262	11,097	4,550	6,991	6,262	11,097	93	147	629

NSO Activity Center Information

Include **pre-and post-project** habitat conditions for cores affected by treatments. This information should be complete when submitting as a PIF-BA. Cores are represented by the 0.5 mile or ~500 acre area surrounding the activity center (AC) point; the last known nest site or roost site, or best of nighttime detections. Add rows for each AC.

Table 5. Pre- and Post-Project Habitat Conditions for Cores Affected by the Project

AC ID	Pre-Project Core Habitat Acres				Post-Project Core Habitat Acres				Change in Status of Core Habitat Acres		
	N/R	F	D	U	N/R	F	D	U	N/R to F Downgrade	N/R Degrade	F Degrade
TRI0082	181	122	46	153	181	122	46	153	0	0	0

TRI0086	49	88	137	228	49	88	137	228	0	0	0
TRI0087A	127	126	89	161	127	126	89	161	0	15	21
TRI0087B	146	169	38	148	146	169	38	148	0	3	5
TR0089	156	130	141	75	155	131	141	75	0	1	3
TRI0092	184	118	112	88	184	118	112	88	0	0	0
TRI0145	121	219	33	131	121	219	33	131	0	0	0
TRI0263	206	56	180	60	206	56	180	60	0	0	0
TRI0264	120	66	261	55	120	66	261	55	0	0	0
TRI0324	178	34	109	181	178	34	109	181	0	0	0
TRI0347	23	142	159	179	23	142	159	179	0	7	18
TRI0499	84	40	283	95	84	40	283	95	0	0	0

*Include **pre- and post-treatment** habitat conditions for home ranges affected by treatments. This information should be complete when submitting as a PIF-BA. Home ranges are represented by the 1.3 mile or ~3,398 acre area surrounding the AC point. The home range acreages below should include the core. Add rows for each AC.*

Table 6. Pre- and Post-Project Habitat Conditions for Home Ranges Affected by the Project

AC ID	Pre-Project Home Range Habitat Acres				Post-Project Home Range Habitat Acres				Change in Status of Home Range Habitat Acres		
	N/R	F	D	U	N/R	F	D	U	N/R to F Downgrade	N/R Degrade	F Degrade
TRI0082	674	885	633	1,206	667	892	633	1,206	7	4	50
TRI0086	205	295	584	2,315	203	297	584	2,315	2	10	41
TRI0087A	608	804	499	1,487	564	848	499	1,487	44	54	166
TRI0087B	440	706	488	1,763	390	756	488	1,763	50	55	170
TR0089	727	894	1,016	762	726	895	1,016	762	1	42	128
TRI0092	429	811	720	1,438	429	811	720	1,438	0	0	3
TRI0145	387	1,289	588	1,133	382	1,294	588	1,133	5	0	19
TRI0263	837	755	1,135	671	836	756	1,135	671	1	5	12
TRI0264	698	826	1,200	674	697	827	1,200	674	1	17	43
TRI0324	531	431	682	1,753	531	431	682	1,753	0	0	27
TRI0347	571	946	623	1,258	561	956	623	1,258	10	45	113
TRI0499	289	566	1,036	1,507	275	580	1,036	1,507	14	6	73

Describe any additional effects information for the cores and home ranges. If more complex or overlapping treatments are involved, include additional descriptions and tables that demonstrate this (e.g., acres of thinning overlapped by acres of fuels treatments or prescribed fire, in cores/home ranges, etc.). Please add tables or information as well if the home ranges or cores also include private lands. Provide maps and shapefiles of habitat conditions and shapefiles for the action area, as available.

Table 7. Survey History and Effects Analysis for Individual Activity Center (AC)

NSO territory	Highest status	Survey history	Effects analysis
TRI0082	Nesting	First surveyed in 1980. Nested in 1982 but nest grove burned in 1987 fires. Current AC is at 1996 detection of single male in N/R habitat. No detections 2015-2019. Not surveyed in 2020, by agreement with USFWS (not close enough to project units).	No effect to any habitat in core area and minimal effects in home range. 11 ac nesting/roosting habitat affected in home range, including 7 ac downgraded, and 50 ac foraging habitat affected. Overall NRF level in core and home range remains unchanged.
TRI0086	Pair	First surveyed in 1980. No nesting history. AC established at 2010 pair location. No detections 2015-2020.	An adequate level of habitat to support NSO reproduction is not currently present. The proposed action will have no effect on NSO habitat in core area, and limited effects in the home range. 12 ac nesting/roosting habitat affected in home range, including 2 ac downgraded, and 41 ac foraging habitat affected.
TRI0087a	Nesting	First surveyed in 1980. AC based on most recent nest site (2017). No detections 2018-20.	15 ac nesting/roosting and 21 ac foraging habitat in core area will be degraded but maintain its functionality. 98 ac of nesting/roosting habitat affected in home range, including 44 acres downgraded, and 106 ac foraging habitat affected. Overall level of NRF habitat in core and home range is unchanged.
TRI0087b	Nesting	This is an alternate AC for TRI0087 based on a 2015 site where a pair was found with a fledgling ~0.4 mi SW of the established AC. Analyzed at request of FWS. Surveyed along with TRI0087a 2015-20.	3 ac nesting/roosting habitat and 5 ac foraging habitat on edge of core area degraded but still functional. 105 ac of nesting/roosting habitat affected in home range, including 50 ac downgraded, and 170 ac foraging habitat affected. Overall level of NRF habitat in core and home range is unchanged.

NSO territory	Highest status	Survey history	Effects analysis
TRI0089	Nesting	First surveyed in 1981 and currently being surveyed annually. AC based on most recent nest site (2018). Pair detection in 2019 very near the 2018 nest site. Pair detection in 2020 ~0.2 mi SSE of 2018 nest site.	1 ac nesting/roosting habitat and 3 ac foraging habitat on edge of core area degraded but still functional. 43 ac nesting/roosting habitat affected in home range, including 1 ac downgraded, 128 ac foraging habitat affected. Overall NRF level remains unchanged in the core and the home range.
TRI0092	Nesting	First surveyed in 1981. Nested in 2012, 2014 and 2016. AC based on 2016 nest site. Non-nesting detections 2017-18. No detections 2019-20.	No effect to any habitat in core area and minimal effects in home range (3 ac foraging habitat degraded).
TRI0145	Nesting	First surveyed in 1982. Reproduction confirmed multiple years. AC based on most recent nest site (2020).	No effect to any habitat in core area and minimal effects in home range. 5 ac nesting/roosting habitat in home range downgraded, and 19 ac foraging habitat degraded. Overall NRF level remains unchanged in the core and the home range.
TRI0263	Nesting	First surveyed in 1984 and reproduction confirmed multiple years since then, but no detections 2015-2020. AC based on most recent nest site (2004).	No effect to any habitat in core area and minimal effects in home range. 6 ac nesting/roosting habitat affected in home range including 1 acre downgraded, and 12 ac foraging habitat affected.
TRI0264	Nesting	First surveyed in 1991. AC centered on only recorded nest site (1991). No detections 2015-2020.	No effect to any habitat in core area and minimal effects in home range. 18 ac nesting/roosting habitat affected in home range, including 1 ac downgraded, and 43 ac foraging habitat affected. Overall NRF level remains unchanged in the core and the home range.
TRI0324	Nesting	First surveyed in 1983. 1996 nest site burned in 2015. AC based on most recent nest site (2017). No detections in 2018-20.	No effect to any habitat in core area and minimal effects in home range (27 ac foraging habitat in home range degraded).

NSO territory	Highest status	Survey history	Effects analysis
TRI0347	Pair	First surveyed 1981. Pair observation 1990, single observation 2005. AC at site of 1990 pair observation. No detections 2015-2020.	7 ac nesting/roosting habitat and 18 ac foraging in core area degraded but still functional. 113 ac foraging habitat and 55 ac nesting/roosting habitat affected in home range, including 10 ac nesting/roosting downgraded, but overall NRF level remains unchanged in the core and the home range.
TRI0499	Pair	First surveyed in 1980. Pair observations 1984, 2015-2017. AC at 2017 daytime pair observation site. No detections 2018-20.	No effect to any habitat in core area and minimal effects in home range. 73 ac foraging habitat and 20 ac nesting/roosting habitat affected in home range, including 14 ac nesting/roosting downgraded. Overall NRF level remains unchanged in the core and the home range.

Private land: There are 1,035 acres of private lands within the NSO action area, comprising 2.5% of the total. The majority is unsuitable for NSO, and these lands support only 292 ac suitable habitat (58 ac N/R and 234 ac F), and 234 ac dispersal habitat.

ESA Cumulative Effects

- 1) Is there private property in the action area, core(s) and/or home range(s)? If so, what type and what are the known ongoing or reasonably certain actions? Include any applicable information on Timber Harvest Plans (THPs) and Emergency Exemptions/Notices. *Discuss with L1 if you have questions on where to access the THP and Emergency Exemptions/Notice Information from Calfire. While a cumulative effects analysis is not required for informal consultations, it may be good to address it for NEPA purposes.*

Not needed for may affect, not likely to adversely affect determination.

Additional Information for NSO and Anticipated Project Effects

Include information here on project design features or resource protection measures, standard operating procedures, or other pertinent information relevant to the discussion of the PIF at Level 1 and effects to NSO. Attach or bring digital map data to the meeting.

The resource protection measures and project design features below were developed collaboratively with FWS specifically for this project to minimize effects to northern spotted owls and their suitable habitat to an insignificant and/or discountable level.

Pertinent resource protection measures

Seasonal restrictions (SRs)⁶ will be implemented to minimize potential impacts during sensitive life history stages to northern spotted owls and wolves, as identified below:

Spotted owls and gray wolves

For northern spotted owls (*Strix occidentalis caurina*), seasonal restrictions (SRs) are established in collaboration with the US Fish and Wildlife Service (USFWS) to minimize potential disturbance or harm to this species.

- A February 1 through September 15 SR will be imposed on activities that modify suitable habitat within 0.5-miles of an active nest or within unsurveyed suitable (NRF) habitat.
- A February 1 through July 9 SR will be imposed on activities that create above-ambient loud and continuous noise for ≥ 2 hours within 0.25-miles of an active nest or unsurveyed suitable (NRF) habitat.
- For smoke producing activities within 0.25 miles of active nests and unsurveyed suitable habitat, employ firing techniques that provide good smoke dispersion and ventilation aloft and/or away from active nests and unsurveyed suitable habitat.
 - If effects of smoke cannot be avoided or minimized to an insignificant or discountable level, a February 1st through July 9th SR will apply, and prescribed burning will be conducted outside the seasonal restriction period for the NSO.
- If surveys to protocol (or surveys using methods agreed upon with the USFWS) show no nesting activity within distances specified for NSO SRs, SRs may be lifted.

Snags and coarse woody debris (CWD)

Where it is available and will not cause a safety concern for implementation, an average of at least 15 tons per acre of large wood in the form of logs (greater than 20 inches diameter and 10 feet long) and snags (15 inches or greater in diameter) will be retained, to the greatest extent possible, for wildlife benefit. Logs and snags in advanced states of decay (decay classes 3-5) and those with deformities such as cat faces, broken or forked tops, hollows or cavities will be prioritized for retention

Consistency with Revised NSO Recovery Plan

Recovery actions pertinent to the proposed action are listed and assessed below. All Recovery Actions were considered. Those not listed below were eliminated from further consideration because they are implemented at larger scales, are not pertinent to this type of project, or pertain to directed research or other actions not relevant to project implementation.

Recovery Action 10: Conserve spotted owl sites and high value spotted owl habitat to provide additional demographic support to the spotted owl population.

- STNF and FWS jointly developed a methodology for identifying the areas most important to the long-term viability of NSO populations, along with RPM's and project design features to minimize effects in these areas. NSO core areas received special emphasis for their importance

⁶ Seasonal restrictions, also known as limited operating periods, refer to the period of time when operations are limited or restricted. It occurs during times when species are more sensitive to disturbance.

to owl reproductive success. The resulting proposal achieves the purpose and need for the project while also meeting the intent of this recovery action. No downgrading of NRF habitats will occur in any NSO core areas, and overall NRF levels remain unchanged in all NSO cores and home ranges.

Recovery Action 32: Because spotted owl recovery requires well distributed, older and more structurally complex multi-layered conifer forests on Federal and non-federal lands across its range, land managers should work with the Service as described below to maintain and restore such habitat while allowing for other threats, such as fire and insects, to be addressed by restoration management actions. These high-quality spotted owl habitat stands are characterized as having large diameter trees, high amounts of canopy cover, and decadence components such as broken-topped live trees, mistletoe, cavities, large snags, and fallen trees.

- Stand-replacing high-severity wildfire is the primary threat to NSO habitat. This project addresses this threat by reducing the fire hazard in treatment units and improving fire suppression capabilities. Project design features and RPM's were developed jointly with FWS to accomplish this while minimizing potential effects to existing NSO habitats and maintaining the viability of the action area to support NSO populations. Habitat modeling indicates that the total amount of NRF habitat in the action area will remain unchanged by proposed activities, and the nesting/roosting habitat downgraded by proposed treatments will regain nesting/roosting functionality in approximately 20 years, and be in a more fire-resilient condition. The project will thus achieve its purpose and need while also meeting the intent of this recovery action.

Final (PIF-BA) Determination and Rationale for NSO and Critical Habitat:

The proposed project may affect, but is not likely to adversely affect the northern spotted owl and NSO Critical Habitat, because:

- Implementation of Seasonal Restrictions (Limited Operating Periods) and smoke management actions will prevent disturbance or harm during the NSO nesting season.
- No suitable habitat will be removed.
- No foraging habitat will be downgraded.
- A limited amount of nesting/roosting habitat will be downgraded to foraging habitat, but the overall level of NRF habitat will be unchanged.
- Thinning of plantations will expedite their growth towards suitable NSO habitat in the future.
- Prescribed burning within suitable habitat/Critical Habitat will maintain habitat functionality while reducing the risk of habitat loss due to future high severity wildfire, insects or disease.
- Potential impacts to suitable habitat will be insignificant due the small acreage of habitat in the action area that will be affected, the limited impacts to habitat quality, and the long-term benefits provided by treatments.
- The project is expected to have relatively minor effects to Critical Habitat and the ICC-1 subunit will continue to function.

Attachments

A. ESA Species List

B. NSO Action Area map

- C. Proposed Action and NSO Critical Habitat map
- D. NSO Habitat and Activity Centers map
- E. NSO Habitat in Proposed Treatment Areas map
- F. Forest Vegetation Simulator (FVS) modeling
- G. NSO Smoke Management map
- H. References